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EXAMINER

HALIM, SAHERA

ART UNIT	PAPER NUMBER
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2157

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/612,635

Applicant(s)

WIRYAMAN ET AL.

Examiner

Sahera Halim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30, 41 - 44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-30, 41 - 44 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/28/05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is respond to Amendment filled on December 20, 2004.
2. Claim 44 has been added.
3. Claims 31 – 40 have been withdrawn from consideration.
4. Claims 1-30 and 41 – 44 are pending.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 1- 3, 11,14,22,26,25, and 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Elwalid et al, U.S. Pat No. 6,353,616 (hereinafter Elwalid).

7. Reference to claim 1, Elwalid teaches a computer-implemented method of managing bandwidth (abstract):

receiving packets on an input port (Fig. 1, numeral 102 and 103 - 109, col. 3, line 59 - col. 4, line 44; the routers and destinations receive packets from the source);

classifying received packets in a classification engine (Fig. 2, numeral 210 and 102, col. 4, line 45 - col. 5, line 3).

processing the classified packets in a processing system according to their classifications (Fig. 2, numeral 204, col. 4, line 45 - col. 5, line 31), including selecting processing from a group consisting of at least two of (col. 4, line 45 – 48; the router employ a round-robin scheduling method) :

session bandwidth packet processing (col. 5, line 32 – 6; link utilization, link capacity in user),

rate shaping packet processing, and

admission control packet processing (col. 5, lines 3 – 31, PATH, RESV, UDATE and TEAR-DOWN messages are control messages identified by packet classifier), and

type of service (TOS) packet processing (col. 5, lines 3 – 31; controller processes each control message based on message type to determine how to process the control message to establish, maintain or tear-down connection); and

queuing packets in a queuing engine (Fig.2, numeral 214, col. 4, line 45- col. 5, line 31).

Note: the applicant claims at least two of the processing and the reference teaches all of the processing except rate shaping packet processing.

8. Regarding claim 2, Elwalid discloses the computer-implemented method of claim 1 wherein the packets comprise network packets (summary and col. 3, lines 10 -20).

9. As to claim 3, Elwalid teaches the computer-implemented method of claim 2

wherein the network packets comprise traffic types (col. 3, line 59 - col. 4, line 44).

10. Regarding claim 11, Elwalid teaches the processing comprises session bandwidth packet processing (col. 5, line 32 – 6; link utilization each transmission line).

11. Regarding claim 14, Elwalid teaches wherein processing comprises admission control packet processing (col. 5, lines 3 – 31, PATH, RESV, UDATE and TEAR-DOWN messages are control messages identified by packet classifier).

12. Regarding claim 22, Elwalid discloses in his invention the computer implemented method of claim 1 wherein processing comprises type of service (TOS) packet processing (col. 5, lines 3 – 31; controller processes each control message based on message type to determine how to process the control message to establish, maintain or tear-down connection).

13. As to claim 26, it is also rejected for the same reasons set forth to rejecting claim 1 above, since claim 26 is merely an a system for the computer-implemented method of managing bandwidth.

14. Reference to claim 43, Elwalid teaches the computer-implemented method of claim 1 farther comprising queuing the processed packets in a queuing engine (Fig. 1 numeral 214 and col. 4, line 45 - col. 5, line 31); and

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scheduling the queued packets on an output port (Fig. 1 numeral 214 and col. 4, line 45 - col. 5, line 31).

15. Reference to claim 25, Elwalid teaches the computer implemented method of claim 1 wherein queuing comprises placing processed packets in queues according to classes (Fig. 1 numeral 214 and col. 4, line 45 - col. 5, line 31).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 4, 5, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elwalid.

18. Regarding claims 4 and 5, Elwalid does not explicitly teach the traffic types comprise wide area network (WAN) traffic destined for a local area network (LAN) and the traffic types comprise local area network (LAN) traffic destined for a wide area network (WAN). However, these limitations are old and well known in the art. It would have been obvious for one having ordinary skill in the art at the time of the invention to receive traffic among any type of network because it would allow management of any

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type of network.

19. As to claim 23 Elwalid does not teach wherein TOS packet processing comprises changing TOS values to match underlying application.

However, it would have been obvious for one having ordinary skill in the art to modify Elwalid's disclosure because it would allow user flexibility.

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 9, 24, 27, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elwalid further in view of Engel et al., U.S. Pat. No. 6,519,636 (hereinafter Engel).

22. Regarding claim 9, Elwalid does not explicitly teach wherein processing system comprising rate shaping packet processing. However, rate shaping is well known in the art and it would have been an obvious modification to the system disclosed by Elwalid as evidenced by Engel. In an analogous art, Engel teaches rate shaping processing (See col. 18 line 1 – col. 19 line 56). Having the teachings of Elwalid and Engel, it would have been obvious for one having ordinary skill in the art at the time of the invention to

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implement rate shaping because it allows a good quality of the transmission between the source and destination (see col. 18, line 1 – 9).

23. Regarding claim 24, 27, and 44, they contain the limitations of claim 1 and 9, therefore they are rejected for the reasons given in claim 1 and 9.

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

25. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elwalid as applied to the claims above, and further in view of Lyles EP Pat. No. 0774848.

26. Reference to claim 12, Elwalid fails to disclose wherein session bandwidth packet processing comprises: generating a new class for the packet class if a packet class specifies a guaranteed minimum bandwidth, assigning the new class the guaranteed minimum bandwidth, and generating a 5-tuple filter for the new class. Nonetheless, Lyles discloses wherein session bandwidth packet processing comprises: generating a new class for the packet class if a packet class specifies a guaranteed minimum bandwidth', assigning the new class the guaranteed minimum bandwidth; and generating a 5-tuple filter for the new class (Pg. 5, line 49 -page6, line 3 and Pg. 9, line 44 -page 11, line 4). Having the teachings of Elwalid and Lyles it would

have been obvious for one having ordinary skill in the art at the time of the invention to include the above limitations to generate a more effective system.

27. As to claim 13, Elwalid does not disclose wherein the 5-tuple filter comprises a destination address of the packet, a destination port of the packet, a source address of the packet, a source port and a protocol of the packet. Nonetheless, these limitations are well known as evidenced by Lyles (Pg. 5, line 49 -page6, line 3 and Pg. 9, line 44 - page 11, line 4). Therefore, it would have been obvious for a person having ordinary skill in the art at the time of the invention to include the above limitations in order to have easy access to the packets.

28. Claims 15 - 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elwalid in view of WO 99 13634 to Carter et al. (hereinafter Carter).

29. Reference to claim 15, Elwalid does not teach wherein admission control packet processing comprises session: receiving a connection; determining a class for the connection, determining whether there is sufficient bandwidth for the class to guarantee a minimum bandwidth', determining an admission directive from the class; and processing the packets in the connection in response to the admission directive. However, Carter discloses wherein admission control packet processing comprises session: receiving a connection, determining a class for the connection, determining whether there is sufficient bandwidth for the class to guarantee a minimum

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bandwidth, determining an admission directive from the class; and processing the packets in the connection in response to the admission directive (pg. 3, line 31 - pg. 6, line 4 and pg. 28, line 7 - page 29, line 2). Having the teachings of Elwalid and Carter, it would have been obvious for one having ordinary skill in the art at the time of the invention to include the admission control packet processing to in order to optimize the system.

30. Regarding claims 16, 18 and 20, Elwalid and Carter fail to teach wherein the admission directive is squeeze, drop, and deny. However, it would have been obvious for a person having ordinary skill in the art at the time of the invention to implement the above limitation in order control arriving connections.

31. Reference to claim 17, 19 and 21, Elwalid and Carter does not teach processing comprises reclassifying the packet to a default class, wherein processing comprises dropping the connection and wherein processing comprises generating a reset packet. However, it would have been obvious for a person having ordinary skill in the art at the time of the invention to implement the above limitations in order control arriving connections.

32. Claims 41-42, 28 - 30, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elwalid in view of U.S Pat. No. 6,646,980 to Packer (hereinafter Packer).

33. Regarding claim 41, Elwalid does not teach the method of claim 1 further comprising receiving parameters from a policy manager. Nonetheless, Packer teaches comprising receiving parameters from a policy manager (col. 11, line 39 - 52 and Fig 4A, numeral 416 and col. 13, line 6 - 14). It would have been obvious for one having ordinary skill in the art at the time of the invention to include a policy manger in order to assign service levels to traffic classes which are be of particular interest.

34. Reference to claim 28, Elwalid does not teach the bandwidth management system of claim 26 further comprising a policy manager connected to the processing and queuing engine. However, Packer discloses a policy manager connected to the processing and queuing engine (col. 11, line 39 - 52 and Fig 4A, numeral 416 and col. 13, line 6 - 14). It would have been obvious for one having ordinary skill in the art at the time of the invention to include a policy manger in order to assign service levels to traffic classes which are of particular interest.

35. Regarding claim 29, Elwalid does not teach wherein the policy manager is an input device providing parameters. Nonetheless Packer teaches wherein the policy manager is an input device providing parameters (col. 11, line 39 - 52 and Fig 4A, numeral 416 and col. 13, line 6 - 14). It would have been obvious for one having ordinary skill in the ad at the time of the invention to include a policy manger in order to assign service levels to traffic classes which are of particular interest.

36. As to claim 42, and 30, Elwalid and Packer do not teach wherein the parameters comprise a class bandwidth and a class priority. However, it would have been obvious for a person having ordinary skill in the art at the time of the invention to include any parameters based on the needs of a specific system.

37. Regarding claim 6, Elwalid does not teach wherein classifying comprises: generating hash values based on components of the network packets, and determining corresponding classes for the hash values. However, Packer discloses generating hash values based on components of the network packets', and determining corresponding classes for the hash values (col. 15, line 35 - 51 and Fig. 4A). It would have been obvious for a person having ordinary skill in the art at the time of the invention to modify the system by a hashing because it would allow simplified search.

38. Claims 7- 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elwalid in view of U.S Pat. No. 6,646,980 to Packer (hereinafter Packer) and further in view of Lyles.

39. Regarding claims 7 and 8, Elwalid and Packer do not teach, wherein the components comprise 5-tuples and wherein the 5-tuples comprise destination addresses, destination ports, source addresses, source ports and protocol numbers. However, Lyles teaches teach wherein the components comprise 5-tuples and wherein

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the 5-tuples comprise destination addresses, destination ports, source addresses, source ports and protocol numbers. (Pg. 5, line 49 –page 6, line 3 and Pg. 9, line 44 - page 11, line 4). Having the teachings of Elwalid, Packer and Lyles it would have been obvious for one having ordinary skill in the art the time of the invention to include the above limitations to generate a more effective system.

Allowable Subject Matter

40. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

41. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to collectively teach determining an advertised window size for a class that has class borrowing disabled by the algorithm: $C = B / (n) (D)$ and determining an advertised window size for a class that has class borrowing enabled by the algorithm: $C = B' / (n) (D)$, such as claimed.

Response to Arguments

42. Applicant's arguments filed December 20, 2004 have been fully considered but they are not persuasive.

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43. It is argued in regards to claim 1 that no of the references teach, "selecting the processing form a group of two or more of the recited members". The Examiner disagrees. Elwalid teaches employing a round-robin scheduling method (see col. 5, line 20 – 23 and col. 4, line 45 – 48). Round robin is nothing is a sequential, cyclical allocation of resources to more than one process or device (see Microsoft Computer Dictionary, Fifth Edition), which meets the argued limitations of selecting the processing from a group of two or more.

44. In regards to claims 24, 11, 9, 14, and 22, the Examiner has presented a new structure or arrangement of the rejected claims, which makes the arguments of the Applicant moot. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or **in the knowledge generally available to one of ordinary skill in the art**. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

45. In reference to claim 26, it is argued that the reference fails to teach a processing engine with two of the recited elements of the processing engine. The examiner disagrees. Figure 2 of Elwalid has a scheduler, timer controller and message routing processing engines, which inherently contains a session bandwidth engine, an

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admission control engine and a type of service processing engine and performs all the processes of those engines.

Conclusion

46. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

47. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

48. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sahera Halim whose telephone number is (703) 305-8054. The examiner can normally be reached on M-F from 8:30-5:00.

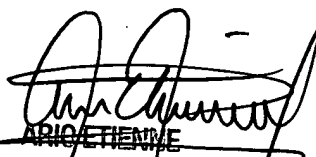
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sahera Halim
Patent Examiner
AU : 2157

April 14, 2005


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